

# WINGS OVER HOUSTON



## NASA soars into Wings Over Houston Airshow

NASA recently participated in the 21st annual Wings Over Houston Airshow Festival held Oct. 8 & 9 at Ellington Field. Visitors had the opportunity to learn about the astronauts, view high-tech NASA aircraft and explore the NASA exhibit tent.



## Space Center Roundup

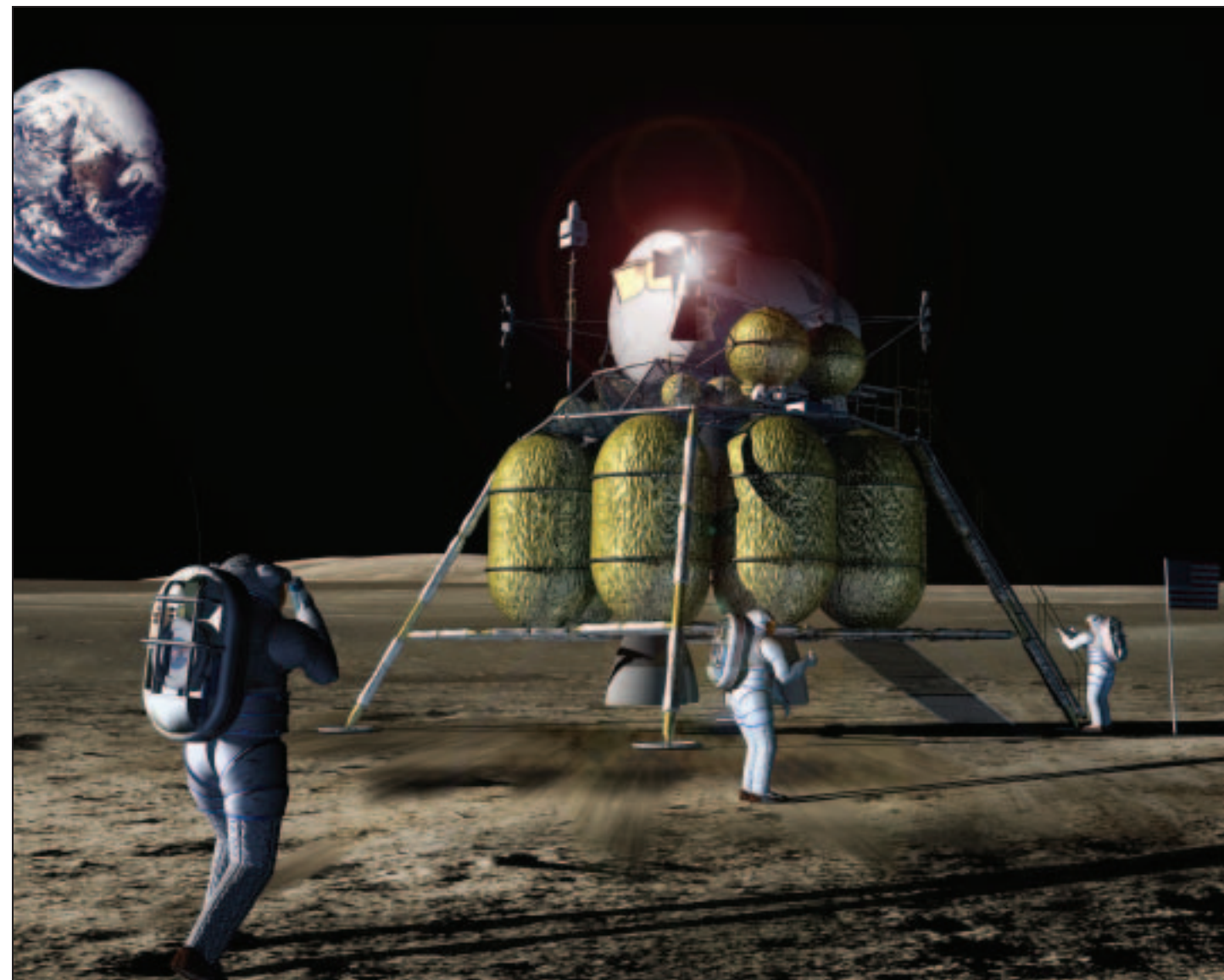
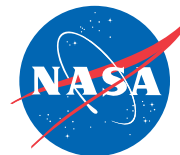
The Roundup is an official publication of the National Aeronautics and Space Administration, Johnson Space Center, Houston, Texas, and is published by the Public Affairs Office for all Space Center employees. The Roundup office is in Bldg. 2, Rm. 166A. The mail code is AP121. Visit our Web site at: <http://www.jsc.nasa.gov/roundup/online/> For distribution questions or to suggest a story idea, please call 281/244-6397 or send an e-mail to [roundup@ems.jsc.nasa.gov](mailto:roundup@ems.jsc.nasa.gov).

Joanne Hale Editor  
Kendra Phipps Assistant Editor  
Catherine Borsché and Brad Thomas Staff Writers  
Marshall Mellard Graphic Designer

PRSR STD  
U.S. POSTAGE  
PAID  
WEBSTER, TX  
Permit No. 39

# Roundup

SPACE CENTER ROUNDUP • Lyndon B. Johnson Space Center  
Volume 44 • Number 11



## Revisiting an old friend

This artist's concept provides a glimpse into a future crewed mission to revisit the moon. Coupled with a lunar lander, the next-generation spacecraft system will be able to send twice as many astronauts to the moon's surface. With larger crews and longer lunar missions, NASA will be able to build the foundation of a thriving exploration program.

November  
2005  
Houston, Texas



# Beak sends...

A MESSAGE FROM CENTER DIRECTOR LT. GEN. JEFFERSON D. HOWELL JR.



## Aloha

By the time this is read, a new Johnson Space Center director will be close to being named. I am absolutely confident that you will give that person the same loyalty and extraordinary performance that I have enjoyed in my tenure. I am also confident that JSC will not only remain the preeminent center for human spaceflight activities, but will improve in all aspects of its endeavors. NASA and JSC are going to accomplish great things!

Once more, thanks for your wonderful service to our nation while I was on your team. Being part of JSC has been a source of incredible pride and satisfaction for me. I hope you realize the great respect and, indeed, affection I have for all of you.

Many of you know that I spent 10 of my 38 years of Marine service in Hawaii. I grew to love the Hawaiian language, which is very lyrical and pleasing to the ear. My favorite Hawaiian word is Aloha. It is a signal of warm friendship, and is used both as a greeting and as a way of saying farewell. Saying Aloha when parting isn't really saying goodbye; it's saying "Until we meet again." To all of you I say ALOHA!

Beak sends...

A handwritten signature in dark ink, appearing to read "Jefferson Howell Jr.", written in a cursive style.

# Long-distance house calls

by Brad Thomas

There are no doctors' offices or emergency rooms in space. Therefore orbiting astronauts must rely on support from the ground to remain healthy and to handle medical issues.

This particular responsibility on the ground belongs to the Mission Control Center (MCC) console position called "Surgeon." The Surgeon console is staffed by medical doctors who specialize in aerospace medicine. They are often referred to as flight surgeons.

Dr. Terry Taddeo is one of the flight surgeon team members who works in the MCC. He said he finds aerospace medicine is unique in its objective.

"The basic job is to make sure there is no impact to the mission due to the health of the crew," Taddeo said. "Aerospace medicine is different than primary care specialties like family practice. The primary job is keeping healthy people healthy in dangerous environments."

A doctor from the team is usually assigned to a shuttle mission about six months before it is scheduled to launch and as early as a year before the launch of a station crew. The amount of time the doctor spends with the crew during training and the amount of communication with the crew on orbit depends on the type of mission.

The difference between shuttle and station assignments, which affects the surgeon's job functions, is mission duration and crew size. Shuttle missions are one to two weeks long and have up to seven crewmembers. Station missions are months long and have two to three crewmembers.

Taddeo has worked as both a space shuttle and a space station flight surgeon. He is assigned to NASA's next space shuttle mission, STS-121. The STS-121 crew is now in training. He said that he is in contact with the crew infrequently right now, but will be in more frequent contact as the launch date approaches. Depending on the training phase, a surgeon can be in contact with a station crew on a daily basis.

Once a crew is in orbit, the contact frequency changes. The surgeon will tag up with a shuttle crew for 10 minutes on a daily basis to discuss any health issues that may be a concern. A station surgeon confers with each crewmember individually once a week for 20 minutes. However, the astronauts have the ability to call or e-mail the surgeon at other times.

To do their job better, the surgeons participate in some types of astronaut training, including flights on aircraft that simulate the microgravity environment of space.



Astronaut C. Michael Foale (right), Expedition 8 commander and NASA ISS science officer, begins to acclimate to gravity in his reclining chair with Lead Flight Surgeon Terry Taddeo at his side.

"Part of the flight surgeon's job is to understand the environment the crews will be in," Taddeo said.

The surgeons prepare the crew for orbital healthcare by training the crew on how to use medical equipment onboard the vehicles and how to treat common problems and some emergencies. They also review the contents of spacecraft medical kits.

Taddeo said minor health issues do occur in space. "The most frequent problems we see are motion sickness, headaches, back pain and cuts and bruises," Taddeo said.

In addition to the shuttle or space station crews to which they are assigned, the surgeons are responsible for the health of the crewmembers' families. "If you want to keep the crewmembers happy, keep their families healthy," Taddeo said.

As NASA moves ahead with the Vision for Space Exploration, keeping crews healthy will become more challenging due to the longer-duration flights that will send astronauts to the moon and Mars.

"A lot of the surgeons are waiting for this to happen," Taddeo said. "It will offer challenges different from operations in low Earth orbit. The shuttle is a legacy program in which the medical philosophy and systems are set. With the Vision for Space Exploration, we are at the stage where we can make a difference."